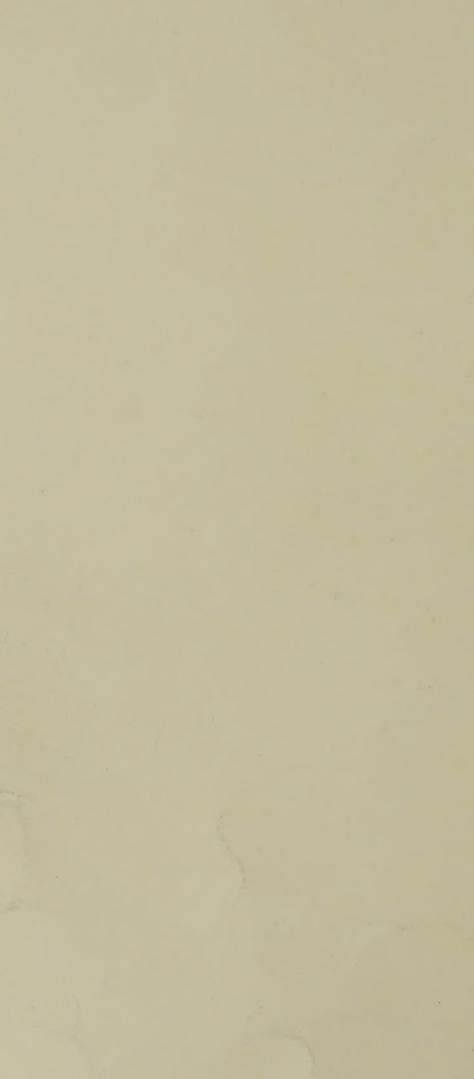
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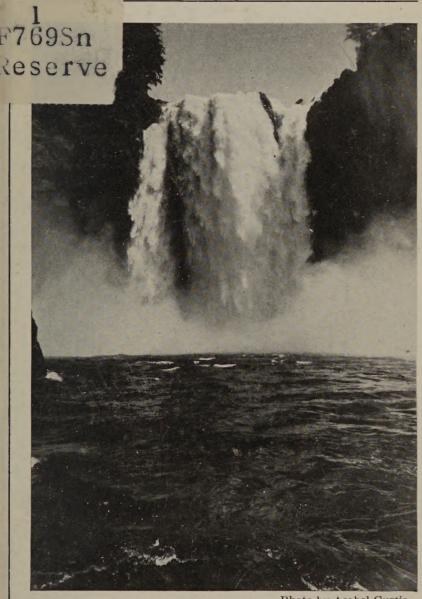
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SNOQUALMIE NATIONAL FOREST

WASHINGTON

Its Purposes and Resources



—Photo by Asahel Curtis Snoqualmie Falls, 270 feet high

U. S. DEPARTMENT OF AGRICULTURE

U.5 FOREST SERVICE

NORTH PACIFIC REGION PORTLAND, OREGON

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railroads, the Great Northern, the Chicago, Milwaukee, St. Paul & Pacific, and the Northern Pacific; and three trans-Cascade highways, Stevens Pass, Sunset, and Naches, cross the forest from west to east.

HISTORICAL

The name Snoqualmie is that of a tribe of Indians. Prof. Edmund S. Meany, in giving the origin of the word says: "The white man has softened the native word Sdoh-kwahlb-bhuh, which refers to the legend that their people came from the moon." Sdoh-kwahlb means moon.

The northern part of the present Snoqualmie National Forest was set aside as a part of the old "Washington Forest Reserve" by proclamation of President Grover Cleveland on February 22, 1897. Additions have been made from time to time until the present Snoqualmie Forest was segregated by executive order of President Franklin D. Roosevelt, effective October 13, 1933.

Until recent years, most of the territory included in the Snoqualmie National Forest was rather inaccessible, known only to the Indian, the stockman, the prospector, the forest ranger, and the tourist of more strenuous habits. Now, through the building of roads and trails, the forest is accessible in many places, although there are still regions, seldom visited, where the bear, elk, deer, and cougar are undisturbed.

From a State-wide standpoint, the central part of the Snoqualmie, embraced in the White River and Naches ranger districts, is perhaps of the most historic interest. This is the region traversed by the new Naches Highway, which starts and finishes on the general route of the "Boston Hooihut" or white man's road, described so entertainingly in Theodore Winthrop's "The Canoe and the Saddle." The new highway, however, crosses the main divide some 20 miles south of the old immigrant crossing through the Naches Pass.

In the early fifties came a handful of whites, blazing the trail of empire to the Puget Sound region. Here was a new domain of great possibilities awaiting development and more settlers were highly desirable. But the immigrant trails to Puget Sound in those days were slow,



A modern "uncovered wagon" along the route of the immigrant trail of 1853

uncertain, and costly. By ship from California or Oregon, through the Straits of Juan de Fuca and Puget Sound, or up the Columbia and Cowlitz by boat and canoe, and thence overland to Olympia was expensive and uncertain, with sufficient obstacles to deter the hardy pioneers and delay development. About 1850 a road across the Cascade Range from The Dalles, which would divert the immigrant trains northward, was seriously discussed. Roads were therefore started up the White River from the west, and up the Naches from the Yakima Valley. Closely linked with this project were the names of Edward Jay Allen, a young engineer, and Captain (later General) McClellan, of Civil War note, and others.

Winthrop's book gives an account of a trip made by him in 1853 across the summit, down the Naches, the Wenas, the Ahtanum, and southward to The Dalles. Shortly after Winthrop's trip a large immigrant caravan, including the Longmires, Ezra Meeker, and other well-known pioneers, encouraged by the news of the road building, left the Oregon Trail at The Dalles and turned northward through the Yakima Valley to Puget Sound. Because of political and military delays, and the meagerness of Congressional appropriation, however, the road had not been completed across the Cascade Range. East of the summit the country was more or less open, with abundant grass for the horses and oxen. From the summit west was an almost unbroken forest with many natural obstacles. The narrow road

cut by these pioneers up the east slope to the top of the divide can still be seen. West of the summit, where growth and decay of the forest are more rapid, fallen timber and dense undergrowth have covered nearly every trace of the toil of the early settlers. There is little else left to mark what was the first immigrants' road to Puget Sound, or the pathways used by the soldiers and the scouts and war parties of their savage opponents in later Indian wars.

RESOURCES

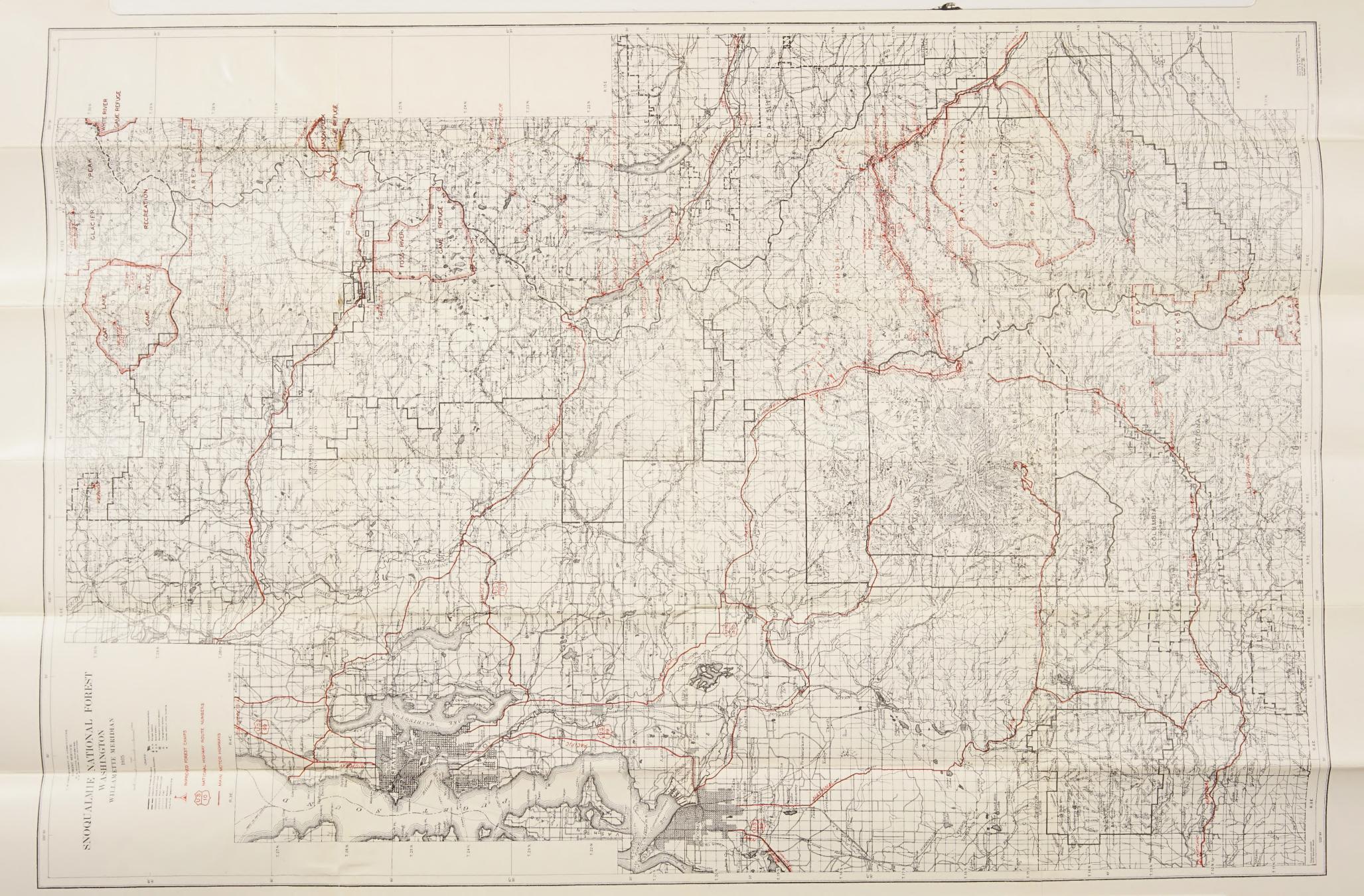
Wood, water, forage, and recreation are the four major products of the national forests, as recognized by the foresters. The primary functions of these forests are to grow successive crops of timber and to aid in the regulation of stream flow by protecting the watersheds. The forests also afford forage resources and opportunities for outdoor recreation. All the resources of the forests are handled with the aim of producing the greatest return consistent with their perpetuation.

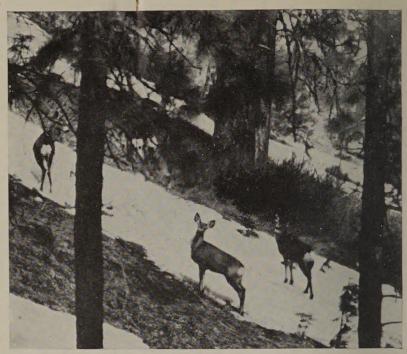
Including, as it does, both east and west side territory, the Snoqualmie National Forest renders a wide range of service to the public. This service may be classified under four main heads, i. e., timber, water conservation, forage, and recreation.

TIMBER

The wealth of the Pacific Northwest is in its forests. Nowhere else in America has nature combined more fortunately soil, abundant rain, and a long, equable season of tree growth. Providence has given the commonwealth of Washington a wonderful heritage in its forests. It is the duty of its citizens to protect the inheritance from destruction by fire.

Where national forest timber is mature and finds its highest use as a commercial commodity, the stumpage is sold under contracts which make careful provisions to insure good future stands. The cut within a given watershed or "working circle" is limited to approximately the amount which can be grown within that area. This is the "sustained yield" plan, providing for permanent industries and permanent homes instead of itinerant sawmills. One of the most important provisions in this plan is the protection from repeated





Deer in the pine timber

F-214697

fires of young forest growth on cut-over lands. Fire upsets the balance of nature and the plans of foresters, and usually leaves the cut-over land a barren, nonproductive waste.

The annual cut of national forest timber on the Snoqualmie National Forest is about 25,000,000 feet board measure. The larger commercial sales are awarded under competitive bidding after the timber has been advertised as is required by law.

On private lands within the national forest, the annual timber cut is much larger than it is on national forest land. The Forest Service does not exercise authority over privately owned land within the forest boundaries, but under article 10 of the NRA code a step in the right direction has been taken by the lumbermen. By combining private and Government timber in each working circle for management purposes a sustained yield plan can be made and used.

There are large stands of merchantable timber suitable for cutting on each of the main watersheds, so that the business may be expected to increase from year to year. As the mature timber is gradually exhausted, younger stands will mature and become available.

The total estimated stand of Government merchantable timber on the Snoqualmie National Forest is 11,690,000,000 feet board measure. The more important species are as follows:

Feet B. M.

Douglas fir (Pseudotsuga taxifolia)	3,094,000,000
Western hemlock (Tsuga heterophylla)	3,975,500,000
Firs (Abies—several species)	2,985,500,000
Ponderosa pine (Pinus ponderosa)	602,000,000

Other important species occurring in smaller quantities include western red cedar (*Thuja plicata*); western larch (*Larix occidentalis*); and mountain hemlock (*Tsuga mertensiana*).

Besides commercial sales, many small sales of saw timber or fuel are made annually to local farmers and settlers for their own use, at prices which cover only the cost of administration.



Cones and branch of Douglas fir

F-215605





Natural water storage. August on the headwaters of Yakima River

-Photo by Asahel Curtis

WATER CONSERVATION

Created by slow upheaval of sedimentary rock, and partially capped by the lava flow of extinct volcanoes, the main summit of the Cascade Range presents a barrier to the air currents from the west. Meeting the chilly air of the high mountains, the warm Pacific winds part with their abundant moisture in the form of rain and snow. Forested hillsides conserve this moisture and protect the streamflow from the floods, erosion, and periods of low water that result from the too rapid runoff from barren hills.

The rain is intercepted by the tree tops and other vegetation and drips gently to the forest floor where it soaks into the spongy humus and soil, to seep out into springs and creeks during the drier summer season. The snow is protected from the sun's rays and the warm winds by a forest cover, to melt slowly and percolate through the spongy soil. Occasionally the rain is so steady and long continued or the winds on the snow are so warm and strong, that the natural sponge fills up and overflows. Under such a combination of circumstances high water and floods result in spite of the regulating effects of a forest cover.

The Snoqualmie National Forest is a natural reservoir that feeds the streams furnishing domestic water, power, light, and transportation to cities on Puget Sound, or, which flowing eastward, keep green the orchards, gardens, and hay fields of the productive Yakima Valley.

The Cedar and Green River watersheds furnish the domestic water supply of Seattle and Tacoma, respectively. Restricted use of the resources of these drainage areas is necessary in order to prevent serious pollution of the supply and silting of the systems. Many smaller cities and towns derive their drinking water from the forest streams, and it is important that each forest visitor should avoid doing anything which would result in the pollution of the water.

The hydroelectric plant of the Pacific Power & Light Co. near Naches, the municipal plants of the city of Tacoma, near La Grande, and the city of Seattle, near Cedar Falls, and the Puget Sound Power & Light Co.'s plants at Electron, Dieringer, and Snoqualmie Falls derive their power from streams which have their headwaters in the Snoqualmie National Forest. Other potential power sites are available and will be developed as the needs arise.

The irrigation storage reservoirs at Bumping Lake and Rimrock save up the surplus spring runoff and add it to the regular summer stream flow for transmutation into the apples and other fruits, hay, and other farm produce grown in the Yakima Valley. Much of the irrigation water for the valley is furnished and regulated through the large reservoirs on the south side of the Wenatchee National Forest. To safeguard these great reservoirs and distribution systems against silting and disastrous floods requires careful fire protection of the watersheds above them.



A round-up on the Naches range

Cortain areas of the forest, especially on the eastern slope of the Cascade Range, yield their highest present use in the grazing of sheep and cattle. In the summer approximately 1,700 cattle feed in the valleys of the Snoqualmie Forest, and 31,000 eyes and lambs are pastured on the ridges between the many mountain streams.

The cattle are owned by farmers living in the vicinity of the forest. Each community has cooperative stock associations, the members of which unite in bearing the cost of herding and salting the cattle while on the national forest range.

The sheep are run in bands of 1,100 to 1,200 head of ewes with their lambs. A separate allotment is provided for each owner. Each band has a herder and a packer, who are required to handle the sheep in such a way as to prevent injury to the grass by overgrazing. Both cattle and sheep men render material service in the protection of the forest from fire. A further protection is given to the forest by the grazing and removal of grasses and weeds which would otherwise dry up and constitute a fire menace. The grazing use of the forest converts these weeds and grasses from a fire menace and an economic waste into the materials of civilization—wool, meat, and leather. Sheep driveways also make excellent fire lanes from which to fight forest fires.

RECREATION

Not only are the timber, forage, and water resources of the Snoqualmie National Forest being used, but this forest area also is a summer playground for the local people. Over 600,000 people visit it each year. Its roads serve the automobile, and its trails are used by hardy pedestrians. If the visitor chooses to ride, there is grass for his horses on the east side of the forest. There are trout in the lakes and streams, and game in the hills. All State laws must be observed within the forest boundaries, as elsewhere. Forest rangers serve as deputy State game protectors without extra pay, helping to protect and develop the wildlife resource.

Many trout are caught in the numerous lakes of medium altitude and along practically all of the



Good fishing streams need forested hillsides

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major streams. The best fishing, however, is generally to be had in those streams and lakes which are the most remote and difficult to reach.

Deer are found in many places. Elk have been introduced and have increased rapidly. Black bear are common and mountain goats occasionally are seen. The pheasant and the grouse are the most common game birds. Mountain and California quail are not uncommon, and ptarmigan are found occasionally at the higher elevations.

The recreational use of the forest is increasing every year as the public comes to appreciate what the outdoors means and as more roads and trails are built. Forest camps have been established and improved, and groups of summer-home sites surveyed as rapidly as funds would permit. Colonies have grown up on the summer-home site tracts along the White and Naches Rivers and at other areas. A limited number of permits have been issued for the establishment of hotels, resorts. and stores where tourist trade is heavy and accommodations are needed. Special permits are issued also for camp or lodge sites to hiking clubs, Boy Scouts, Campfire Girls, Y. M. C. A., and similar organizations. Location, charges, and restrictions for these permits are based upon an individual study of the conditions and needs in each case, and covered in recreation plans. Winter sports, sponsored by mountaineering groups of the Puget Sound country, are becoming increasingly popular on the Snoqualmie.

POINTS OF INTEREST

From a recreational standpoint, the Snoqualmie National Forest divides naturally into four major sections—the east side, the southwest section, the Snoqualmie Pass section, and the Skykomish section.

EAST SIDE SECTION

The east side of the Snoqualmie National Forest, embracing the Naches and Tieton watersheds, includes such interesting recreational streams as the American and Bumping Rivers.

Visitors from the cities of Puget Sound and the farming country in the central and eastern parts of the State are impressed by the peculiar charm of the landscape. There is a great variety of trees. Ponderosa pine, the balsam firs, Douglas fir, and



Tipsoo Lake near Chinook Pass. Mount Rainier in background

tamarack grow on the slopes and benches above the valley floor. The ground beneath them often is free from brush and undergrowth so that one may ride at will over the pine-grass turf. Cottonwood and alder grow among the evergreens along the streams, and there are long stretches of sandy or rock-strewn river bar. Everywhere open glades and meadows allow an extended outlook across the valleys to the mountain tops. This part of the Snoqualmie has come to be the natural summer playground for the residents of the valleys on the eastern side of the Cascade Range.

SOUTHWEST SECTION

This section of the Snoqualmie includes the White River watershed, and those parts of the Carbon and Nisqually which lie within national forest boundaries. The main highways lead to Rainier National Park entrances.

The White River country is popular with people from Tacoma, Seattle, and other Sound points. For much of the way the road passes through dense stands of timber. Some of the best Douglas fir timber on the forest is to be seen on this trip. Farther on, the valley becomes narrower and the enclosing ridges are higher and steeper and are broken by cliffs and ridges. This road, the Naches Highway, also leads to the northeast entrance of Mount Rainier National Park.

The main national park entrance road to Longmire and Paradise Park traverses the Nisqually section of the forest for a few miles before entering the park. Just to the north of this road, reached by trail, is Mount Bel and Lake Christine—one of the most attractive places in the forest.

SNOQUALMIE PASS SECTION

The Sunset Highway crosses this section from west to east. It is the only road north of the Columbia River route which is kept open during the winter. Thousands of winter sports enthusiasts visit this area during winter week-ends for skiing, snowshoeing, and tobogganing. A Seattle municipal camp is available, as well as a resort on private land, and numerous ski clubhouses. With snow from 5 to 15 feet in depth the exhibitation

of gliding through this mountain wonderland is a tonic which can be enjoyed by all.

Approximately 450,000 people traverse the highway each year and enjoy the beauties of the Snoqualmie River scenery. A large public camp ground at Denny Creek, about 3 miles below the summit, cares for many summer visitors, and a smaller public camp at Commonwealth Creek, just below the summit, is available.

A beautiful grove of large trees along the highway has been purchased by the women's clubs of Washington, to be kept in perpetuity as an example of the "big timber" of the Pacific Northwest. If fires can be kept from the logged-off private land below this tract a new forest soon will beautify this entire valley. Such new forests are naturally replanted by seed from the trees left standing after logging. Only after repeated fires must hand planting be resorted to.

SKYKOMISH SECTION

This northern portion of the forest is noted for the grandeur of its scenery and the multiplicity of mountain lakes. It is the most rugged portion of the Snoqualmie National Forest and contains many sections still untrammeled by the works of man. Fishing, hunting, berry picking, and mountain climbing are the main attractions.

The Stevens Pass Highway leads the traveler across the section from the west to east, connecting Puget Sound points with the Wenatchee Valley and eastern Washington. The route is scenic, but it is not a high-speed highway.

There is a resort and a public camp ground at Stevens Pass adjoining open slopes where huckleberries may be found in season. Lower down in the valley there are several resorts on private land along the roaring Skykomish River.

When you clean your fish, don't throw the refuse into the streams; someone may be camped below you, or you may sometime wish to camp below on this same stream. Hundreds of people get their drinking water from the streams on the national forests. Bury all camp refuse and body excrement. Obey the well-recognized laws of ordinary sanitation.

A mountain road leads up the North Fork of the Skykomish to Galena and Mineral City, small mining settlements, and to Garland Mineral Springs, a privately owned resort. Another mountain road leads up Miller River to mining developments. A summer home colony and a public camp ground have been laid out adjoining this road.

Rough mountain trails lead to many of the high mountain lakes where fishing often is excellent. The Skykomish River and its tributaries also furnish good fishing waters. The most popular of the lakes is Lake Dorothy at the head of Miller River.

The logged-off bottomland for over 20 miles is outside the national forest. Here the fire hazard is high and extreme caution must be taken with fire in order that the new crop of seedlings just starting may clothe the naked hills.

MOUNT RAINIER NATIONAL PARK

Mount Rainier rises abruptly 14,408 feet from just above sea level. Surrounding the mountain is 325 square miles of territory which has been set aside as a national park.

Mount Rainier National Park is administered by the National Park Service of the U. S. Department of the Interior. It is entirely surrounded by the Snoqualmie and Columbia National Forests and lies west of the summit of the Cascade Range. While they are separate administrative units, and in different departments, there is the closest cooperation between national park and national forest officers in such matters as forest protection and other mutual lines of work.



The "Klashe Tillicums" Club House on the Naches



Gatehouse at entrance to the Pack Demonstration Forest of the University of Washington

A fire lookout is maintained at Anvil Rock, not far below the summit, where the lookout man is ever on the watch for forest fires, and where he may succor a sick or injured climber. From this point also emergency telephone messages may be sent over Government wires to the outside world.

THE PACK DEMONSTRATION FOREST

A short distance east of La Grande, travelers on the Rainier National Park Highway will pass the Charles Lathrop Pack Demonstration Forest. This area of 2,000 acres was donated to the College of Forestry of the University of Washington by the Charles Lathrop Pack Forestry Trust of Lakewood, N. J. The purpose of the founder is to make this a "show window of forestry" where present and future correct methods of forestry can be graphically demonstrated. The forest includes a model tree nursery, sample plots for the study of tree growth, areas of young and old timber, and examples of natural regeneration. A complete model of the forest on a scale of 1 inch to 10 feet is at the gatehouse. At the present time the forest contains over 25,000,000 feet of standing timber, including young and old growth. The Dean of the School of Forestry, University of Washington, is directly in charge of the forest.

COMMUNITY BENEFITS FROM THE NATIONAL FOREST

Twenty-five percent of the total receipts of the forest from timber sales, grazing permits, land leases, and other sources of income is returned

(16) 8—8924

directly to the State to be distributed by the State treasurer among the counties in proportion to their national forest acreage. This money is used by the various counties in the construction and maintenance of roads and for the support of schools. The Snoqualmie Forest is in Snohomish, King, Kittitas, Lewis, Pierce, Thurston, and Yakima Counties. For the 27-year period from 1906 to 1932, inclusive, the amount turned over to the State treasurer, under the 25 percent Federal law, for roads and schools in these counties was:

Snohomish County	\$216, 896, 87
King County	
Kittitas County	41, 468. 40
Lewis County	
Pierce County	19, 979. 39
Thurston County	44.77
Yakima County	69, 459, 12
	\$505, 551. 94

An additional 10 percent is used by the Forest Service in constructing forest roads and trails which are chiefly beneficial to neighboring communities.

As the forest resources are used more and more under systematic management, it is reasonable to expect that the annual amounts received by the counties will continue indefinitely and will increase. For example, the receipts from the national forests in Washington in 1913 were \$127,580; in 1929 they were \$604,069.94.

PROTECTIVE IMPROVEMENTS

Early discovery and report of forest fires and prompt attack upon them are necessary if fires are to be put out while they are yet small. The network of telephone lines which connect lookouts, forest officers, and the cooperating public is a very important aid in this part of fire fighting. No less important are good trails or roads over which men and equipment can travel with the greatest saving of time and distance. To aid in the work of forest protection and fire fighting, there has been built on the Snoqualmie National Forest a total of 690 miles of telephone line, 1,650 miles of trails, and 24 lookout structures.



FIRE-The Red Enemy of the forest

F-221682

THE FIRE ORGANIZATION

The first task of the forest ranger is that of fire prevention and fire suppression. Not only must he try to get the people who make use of the forest to be careful with fire at all times, but if fires start they must be reached quickly and put out. Fighting a big forest fire is the hardest kind of work, and often is exceedingly dangerous.

The fire-fighting force of the national forests has two main objectives. First, to keep forest fires from starting, and second, to discover, report, reach, and put out in the shortest time possible all fires that get started. Each national forest has a fire plan which lists all lookout stations, telephone lines, roads, trails, a special emergency force of lookout men, patrolmen, and fire fighting crews, and available supplies, equipment, and transportation.

During the dry season the forest is under the watchful eyes of lookouts and patrolmen, who are



(19)

constantly scanning the country so that if a fire starts it can be discovered and extinguished as quickly as possible. The lookouts are stationed on high points overlooking large areas of timber. They have instruments known as fire finders for accurately locating and plotting any telltale smoke with the least delay, and are connected with the rest of the protective organization by telephone.

All persons who discover fires while traveling in the forest should put them out, if possible. If this is not possible, they should notify a ranger or fireguard just as soon as they can.

This first task of fire prevention and fire suppression is necessary in order that the forest property, which belongs to all the people of the Nation, may not be destroyed. The real work of the forest ranger is the administration of the uses of the ranger district which has been placed in his care.

INFORMATION

Additional information with regard to the details of all the resources of the Snoqualmie National Forest, or of trips, may be obtained at the office of the forest supervisor, in the Federal Office Building at Seattle, or from the various officers of the Forest Service throughout the forest. All they ask in return is a clean camp and care with fire, which is the arch enemy of green forests.

If you find a fire, put it out if you can, but be sure in any case to report it to the nearest forest officer. Failure to do this may result in the total destruction of your favorite camping place, to say nothing of the loss in timber. Always follow the Smokers' Code.

There are Forest Service telephones in the forest which you may use in an emergency. When you pass a ranger station it is a good plan to give the ranger your name and destination so that important messages can be sent to you.

On the west side of the Snoqualmie district, rangers are stationed on the White River near Silver Creek, at Mineral, at Denny Creek, and at Skykomish. East side district rangers have their headquarters at Naches Ranger Station on the Naches River, and at Tieton Ranger Station on the Tieton.

FEDERAL FIRE LAWS

Special Federal laws govern the tourist or camper who enters the national forests in Oregon and Washington. The following violations are punishable by fine or imprisonment, or both.

A. During the period from July 1 to September 30:

- 1. Failure to secure a camp-fire permit before building any camp fire on any national forest land (other than the Siuslaw National Forest) except in safe stoves or at those forest camps where no camp-fire permits are required, as shown by posted notices.
- 2. Going or being upon any national forest land, except at designated and posted forest camps (and on the Siuslaw National Forest) with automobiles, other vehicles, or pack horses with the intention of *camping* thereon, without being equipped, for each vehicle or pack train, with the following fire-fighting tools:
 - (a) One ax, not less than 26 inches in length, over all, and head weighing 2 pounds or more.
 - (b) One shovel, not less than 36 inches long, over all, and blade not less than 8 inches wide.
 - (c) One water container, capacity 1 gallon or more.
- 3. Failure to stop when smoking, while in timber, brush, or grass areas on national forest land, except on paved or surfaced highways (and on the Siuslaw National Forest).

B. Throughout the entire year:

- 4. Building a camp fire in grass, leaves, rotten wood, or other dangerous places, or in windy weather, without clearing around the fire pit and confining the fire to a hole.
- 5. Leaving any fire to burn unattended or failing to totally extinguish a fire before leaving it.
 - 6. Throwing or placing a lighted cigarette, cigar, pipe heel, match, firecracker, or other burning substance, or discharging fireworks, in any place where they may start a fire.

The above rules of general application are frequently supplemented by special restrictions necessary for the protection of certain small areas of unusually high fire hazard. Special notices are always posted at trail and road entrances to areas where any additional precautionary measures are effective. Such restrictions may include closures:

(a) to all smoking, (b) to all camping, (c) to all public use except by settlers within the area, (d) to entry except after registering at designated places and securing permits authorizing entry under certain conditions.

NAMES OF PRINCIPAL TREES FOUND IN THE SNOQUALMIE NATIONAL FOREST

Douglas fir	Pseudotsuga taxifolia -
Ponderosa pine	Pinus ponderosa
Western red cedar	Thuja plicata
Western hemlock	Tsuga heterophylla
Mountain hemlock	Tsuga mertensiana
Sitka spruce	Picea sitchensis
Alaska cedar	$Chamae cyparis\ nootkatens is$
Lowland white fir	Abies grandis
Silver fir	Abies amabilis
Alpine fir	Abies lasiocarpa
Noble fir	Abicsnobilis
Pacific yew	Taxus brevifolia
Red alder	Alnus rubra
Bigleaf maple	Acer macrophyllum
Black cottonwood	Populus trichocarpa



GOOD MANNERS IN THE FOREST

A good sportsman, camper, or tourist, when he goes into the national forest—

FIRST obtains a camp fire permit.

CARRIES a shovel, an ax, and a bucket.

FOLLOWS the Smokers Code.

APPRECIATES and protects forest signs.

PUTS OUT his camp fire with water.

LEAVES a clean and sanitary camp.

OBSERVES the State fish and game laws.

COOPERATES with the forest rangers in reporting and suppressing fires.

PREACHES what he practices.